



# SPORTS NUTRITIONAL KNOWLEDGE, ATTITUDE AND PRACTICE OF ADOLESCENT CRICKET PLAYERS

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## ABSTRACT

Good nutrition is an important component besides training for athletic success. Adolescent athlete's nutritional demands are high to meet the requirements of both growth and sports performance. The lack of sports nutritional knowledge often leads to poor dietary practices which in turn affects athletic achievements. Cricket is an endurance sports in which following a proper diet with respect to the sport is essential. The present study aims to evaluate the sports nutrition knowledge, attitude and practice of adolescent cricket players and compare between male and female players. A total number of 105 cricketers comprising 57% male and 43% female cricket players. A self-framed questionnaire used in the study included 10 questions each on sports nutrition knowledge, attitude and practice. Majority of the cricket players selected were in the age group of 17- 19 years and doing their under graduation studies. The results of sports nutritional KAP revealed a poor level of knowledge in sports nutrition domains with better mean knowledge score of  $10.43 \pm 1.77$  among females than males ( $11.69 \pm 2.51$ ), whereas mean attitude score was found to be high among male cricketers  $36.11 \pm 0.88$  than females ( $34.24 \pm 0.31$ ) which were statistically significant based on gender. A non-significant difference was observed in dietary practices with the mean score of  $5.35 \pm 1.65$  and  $5.02 \pm 1.89$  in male and female cricket players respectively. The adolescent players get confused information from various unreliable sources such as peers and online media. The low KAP scores of both male and female adolescent cricket players indicated the necessity for continuous nutrition education from a sports nutritionist for better improvement in overall health and sports performance.

**KEYWORDS:** Cricket players, Adolescents, Knowledge, Attitude and Practice (KAP).

## INTRODUCTION

Adolescence is the stage of life between ages of 11 and 21 years. Significant changes occur, during this crucial transition period which prepares a child for adulthood. The requirements for energy and other nutrients increased to meet the rapid growth and development during this stage (Hurlock, 2007). In addition to the normal demands for nutrients, when an adolescent is an athlete, there are several important factors to consider in relation to nutrition for both growth and sports performance (Wallinga, 2012).

Sound nutrition is very important in attaining high level of achievement in sports aside from genetics and physical training (Duyff, 2002). Therefore nutrition is an essential component of any athletic or physical activity program. There is an increased energy demand for those involved in sports; however, most adolescents do not adequately meet all nutrient recommendations (Croll, et al., 2006). Diets of adolescent athletes are less than optimal in certain areas such as low energy, carbohydrate, and micronutrient intake and high fat intake, often due to a lack of knowledge and they often do not understand the benefits of maintaining a healthy diet (Abood et al., 2009). According to Morse and Driskell (2009), adolescent athletes are not aware of their nutritional needs, the importance of meeting these demands, and also how to meet these needs. Most collegiate athletes remain poorly educated about sound nutritional practices and are unskilled in making appropriate daily nutritional choices (Dunn et al., 2009). High levels of nutrition knowledge and positive attitudes can result in increased performance and health of an athlete.

Cricket is a bat-and-ball endurance game played between two teams of eleven players on a cricket field with various requirements such as explosive power, speed, agility, strength and recovery speed. The understanding of the nutritional demands of the sport will enable a more scientific approach for enhanced performance. Several studies on the nutritional knowledge, attitude and practice of adolescent athletes showed a direct relationship between improper nutritional practices and lack of nutritional knowledge and nutritional misconceptions (Trumbo, 2010). According to Shifflett (2002), college athletes receive most of their nutritional knowledge from coaches, peers and media, yet many athletes' knowledge bases are lacking and incorrect. This lack of accurate information may lead to an increased chance of athletes developing deficiency diseases and one or more aspects of the female athlete triad among female athletes (Wolinsky, 1998). Various researches on the nutritional knowledge of college athletes showed inadequate nutritional knowledge (Rosenbloom et al., 2002; Jeukendrup, 2011 & McGhee et al., 2012). But there is a scant literature available on the sports nutritional KAP of cricket players. Hence the present was undertaken with the broad objective to assess and compare the sports nutritional KAP of male and female adolescent cricket players.

Therefore, the purpose of this study was to determine differences in nutrition knowledge between collegiate athletes participating in different types of sports, identify areas where nutrition knowledge was lacking and investigate nutrition-related concerns athletes would like to have addressed.

## MATERIALS AND METHODS

**Subjects:** A total of 105 adolescent cricket players, 60 male and 45 female players in the age group of 17-21 years were selected from Inter university cricket tournament held in Chennai using purposive sampling technique.

### Formulation of KAP Questionnaire:

A self-structured questionnaire was framed by the investigator based on the common dietary practices of the sportspersons. Each section of Knowledge, attitude and practice consisted of 10 questions which covers macro and micronutrients, fluid guidelines, weight management and competition nutrition with true/false, 5 point Likert scale (5-Strongly agree, 4-Agree, 3-undecided, 2-disagree, 1-strongly disagree) and Yes/No responses respectively. To test the reliability of the developed questionnaire a pilot study was conducted among 30 sports persons, 15 each male and female following test-retest method. The Cronbach alpha values obtained for knowledge (0.8), attitude (0.92) and practice (0.76) showed a strong reliability. The maximum scores assigned for KAP was 10, 50, and 10 respectively.

### Data Collection:

The highly reliable structured questionnaire was administered personally to each cricket player after their game, with proper explanation of purpose of the study and the questions.

### Data Analysis:

The filled in questionnaires were collected, the data were compiled, coded, tabulated and statistically analysed. Percentage, mean, standard deviation and independent t test was calculated from the KAP scores using SPSS version 18 to compare the gender differences.

## RESULTS & DISCUSSION

**Demographic Details:** The results of the demographic details of the players is presented in Table-I, in which the age distribution showed that majority of the male (62%) and 89% of female players were in the age group of 17-19 years. Most of the players were doing their under graduation (85% male, 93% female). About 72% of male cricketers were residing in hostel, in contrast to only 18% of female players. The years of involvement in sports showed that 78% of male with 4-6 years' experience, while 76% female had only 2-4 years of sports involvement. Majority of the male (55%) and female (67%) were found to play at intercollegiate level and 45% male played at zonal level tournaments.

**Table-I:**  
Demographic and sports participation details of the Cricket Players

Variables	Male No. (%)	Female No. (%)	Total (%)
<b>Age (Years)</b>			
17- 19	37 (62)	40(89)	73
20-22	23(38)	5(11)	27

**Educational Qualification**

Undergraduation	51(85)	42(93)	89
Post graduation	9(15)	3(7)	11
Residence			
Home	17 (28)	37 (82)	51
Hostel	43 (72)	8 (18)	49

**Years of Sports experience**

2-4 years	13 (22)	34 (76)	48
4-6 years	47 (78)	11(24)	52

**Level of Play**

College	33 (55)	30 (67)	60
Zonal	27 (45)	15 (33)	40

**Sports Nutritional Knowledge:**

It is essential to possess basic as well as sports nutritional knowledge for peak performance. In this study, the per cent positive responses on the knowledge domains is presented in Table II, shows that female cricket players were best informed and aware about the role of carbohydrates, lipids and vitamins in athletic performance, as well as fluid guidelines, weight management and eating disorders. The male cricketers had a better knowledge about the functions of proteins, minerals and dietary guidelines for competition preparation.

**Table-II:****Sports Nutritional Knowledge of the selected adolescent cricket players**

Knowledge Domains	Positive Responses (%)	
	Male	Female
Carbohydrates	32	41
Proteins	26	24
Lipids	11	13
Vitamins	17	21
Minerals	30	26
Fluid Guidelines	5	17
Weight Management	12	23
Eating Disorders	4	7
Competition Nutrition	12	8

**Sports Nutritional Attitude:**

The attitude statements were designed based on common beliefs, food fads and attitudes of Indian sportspersons. About 52% male and 39% female cricket players strongly agreed that sportspersons need higher amounts of nutrients than non-sports persons of same age. Compared to 27% females, 38% male strongly disagreed that eating more carbohydrates increase body weight. The attitude towards supplements intake and its effect was strongly agreed by females than male players. Only 13% of female cricketers disagreed that skipping meals is a best way to reduce weight. This indicates their incorrect attitude towards weight management practices. An equal attitude was observed among both male and female cricket players regarding dehydration. Majority of the female players (54%) agreed strongly the higher need of iron for female athletes. Overall the dietary attitudes of adolescent female cricket players were quite commendable and impressive. A similar result was also observed by Hogenboom (2009) among female swimmers.

**Table-III:****Sports Nutritional Attitude of the selected adolescent cricket players**

S. No	Attitude Statements	Correct response	Male (%)	Female (%)
1	Sportsperson's nutritional demands are higher than non-sportspersons	SA	52	39
2	Well balanced diet is equally important as training for health and performance	SA	57	59
3	Higher intake of carbohydrates increase body weight	SD	38	27
4	Protein and vitamin supplements are essential for sportspersons	SD	14	66
5	Excess supplements consumption may harm the health	SA	32	75
6	Dehydration affects performance	SA	46	44
7	Skipping meals is the best way to reduce body weight	SD	59	13
8	Sports drinks are better than plain water	SA	12	7
9	Based on climatic conditions dietary pattern should change	A	77	69
10	Female athletes need more iron than male	SA	22	54

**Sports Nutritional Practice:**

Practice is the execution of knowledge. The better the knowledge level, the better would be the diet practices. In the current study, 14% male and 10% female players found to consume balanced diet. Carbo-loading was not followed by 79 % and 74% male, female players respectively. Compared to 27% male, 38% female players were found to change their meal pattern before competition. Majority of the female players (61%) skip meals prior to competition. The reason stated for skipping meals feared of stomach upset. The practice of eating small healthy snacks during practice was followed by 40% of male players compared to only 22% female players (Table IV).

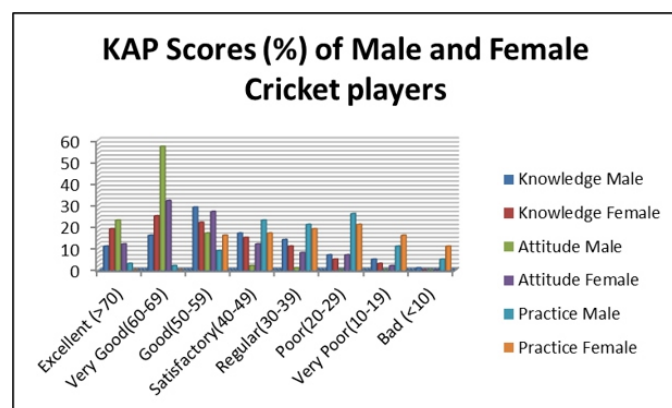
**TABLE IV:****Percentage Responses of Practice Statements**

Practice Statements	Male		Female	
	Yes	No	Yes	No
Do you consume balanced diet?	14	86	10	90
Do you consume high carbohydrate foods before competition?	21	79	26	74
Do you skip meals before competition?	36	64	61	39
Do you drink sports drinks?	9	91	4	96
Before competition, do you change your meal pattern	27	73	38	62
Do you have a habit of eating raisins/bananas during competition?	40	60	22	78
Do you take any supplements to boost your performance?	39	61	14	86
Do you drink fluids only during thirst?	72	28	86	14
Do you eat nutritious foods after training?	15	85	8	92

The supplements intake to boost performance was followed by 39% of the male players in contrast to 14% female players. Majority of the players (72% male and 86% female) found to drink fluids only when they feel thirsty. Least number of male (15%) and 8% female cricket players eat nutritious foods for recovery. This result shows that there seems to be an unsatisfactory amount of dietary practices followed by the selected cricketers.

**Sports Nutritional Knowledge, Attitude and Practice based on Z Scores:**

To check the standard scores of the knowledge, attitude and practice Z scores were established and depicted in Figure-1. An excellent knowledge scores was obtained by 19% female players compared to 11% male cricketers. Among male players, good level of knowledge (29%), very good attitude (57%) and poor practice (26%) was observed. Whereas very good knowledge scores (25%) and attitude (32%) and poor practice (21%) scores was obtained by female players.

**Figure 1: Sports Nutritional Knowledge, Attitude and Practice based on Z Scores****Mean Sports Nutritional Knowledge, Attitude and Practice:**

From the mean scores shown in Table V, it was observed that the nutritional knowledge of the adolescent cricket players needs to be improved. Compared to male players, the female exhibited a better knowledge score which is statistically significant. The higher knowledge of females than males was in accordance with Azizi et al., (2010). With regard to nutritional attitude male players scored better than females which showed a significant difference. Irrespective of high knowledge scores, the mean practice scores of female cricketers ( $5.02 \pm 1.89$ ) was less than the male players ( $5.35 \pm 1.65$ ), while the difference between gender is non-significant.

**Table V:**  
**Comparison of KAP between Male and Female Cricket players**

KAP	Male	Female	t-value
Knowledge	10.43 ± 1.77	11.69 ± 2.51	2.87 **
Attitude	36.11 ± 0.88	34.24 ± 0.31	9.42 ***
Practice	5.35 ± 1.65	5.02 ± 1.89	0.95 NS

#### CONCLUSION:

College years are an ideal time to influence a large number of adolescents about the positive impact of a healthy diet on long term health, which explains the need for nutrition education in the collegiate setting (Cerutti and Quinton 2009). Adolescent athletes may be receptive to learning the possible ways to improve their dietary habits, to correct nutrient inadequacies that can impact their sport performance (Rash et al. 2008). In this study, the adolescent male and female cricketers exemplified low nutrition knowledge scores, moderate score in attitude and poor score in dietary practices. Based on the findings, a nutrition intervention should aim to educate the players especially with regard to the role of nutrients, supplements and competition preparation.

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